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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,373	01/04/2006	Isamu Nakao	09812.0122-00000	8827

22852 7590 11/22/2010

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER	
MA, JAMESON Q	

ART UNIT	PAPER NUMBER
1775	

MAIL DATE	DELIVERY MODE
11/22/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/563,373	NAKAO ET AL.	
	Examiner	Art Unit	
	JAMESON Q. MA	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 August 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-17* is/are pending in the application.

4a) Of the above claim(s) *6-17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Hashimoto (US 2002/0064795).

Regarding claim 1, Hashimoto teaches an electrode apparatus used for analyzing a biochemical reaction the electrode apparatus comprising:

a first electrode structure comprising:

a well (1) formed on a substrate;

a first electrode (3) under the well and providing a reaction area for performing the biochemical reaction; and

a solid-phasing layer (see [0070]: the ion transmission film is viewed as a solid phasing layer) positioned on the first electrode;

a holder (the structure containing wells 1 is viewed as a holder) holding the first electrode structure;

an external electrode (2) structure disposed opposite to the first electrode structure, the external electrode structure comprising a semiconductor wafer (see [0049]: the electrode is made from silicon) formed at an end of the external electrode structure, the semiconductor wafer being a second electrode and having a surface facing the well, an area of the surface being larger than an opening area of the well (some area of the electrode 2 is greater than some area of the well opening at 1); and

a voltage source (see [0041]) generating an electric field between the first electrode and the second electrode.

Regarding claim 2, Hashimoto teaches wherein:

the first electrode is a conductive layer (3, electrodes are conductive) underlying the reaction area; and

the surface of the semiconductor wafer has a plane parallel to the conductive layer (see fig. 1).

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto (US 2002/0064795) in view of Sato et al. (US 2002/0102718).

Regarding claim 3, Hashimoto discloses all of the claim limitations as set forth above but does not teach explicitly an AC voltage source. The reference does teach that the disclosed apparatus is a nucleic acid detecting apparatus (see abstract).

Sato teaches a nucleic acid (DNA) detector capable of performing overall analysis on an unreacted sample (see abstract). The apparatus comprises both a DC and AC power source (see fig. 1). Combining both types of voltage sources in the same apparatus allows for multiple typed of detection procedures to be used (see [0039-0045]).

It would have been obvious to one of ordinary skill in the art at the time of invention to substitute use as the voltage source taught by Hashimoto, a system

comprising both an AC and a DC voltage source as taught by Sato because doing so would have resulted in nothing more than combining prior art elements to obtain predictable results in voltage sources used in nucleic acid detection devices.

The rationale to support a conclusion that the claim would have been obvious is that all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination yielded nothing more than predictable results to one of ordinary skill in the art. KSR, 82 USPQ2d at 1395; Sakraida v. AG Pro, Inc., 425 U.S. 273, 282, 189 USPQ 449, 453 (1976); Anderson 's-Black Rock, Inc. v. Pavement Salvage Co., 396 U.S. 57, 62-63, 163 USPQ 673, 675 (1969); Great Atlantic & P. Tea Co. v. Supermarket Equipment Corp., 340 U.S. 147, 152, 87 USPQ 303, 306 (1950). "[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." KSR, 82 USPQ2d at 1396. If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto (US 2002/0064795) in view of Phan (previously cited, US 5,434,423).

Regarding claim 5, Hashimoto discloses all of the claim limitations as set forth above but does not teach explicitly the semiconductor wafer has acceptor or donor ions doped within.

Phan teaches that it is well known that semiconductors are altered in electrical behavior by the introduction of dopants. Than further discloses that dopants generally come as either n-type or p-type.

It would have been obvious to one of ordinary skill in the art at the time of invention to select an n-type or p-type as the electrodes in the apparatus of Hashimoto, because doing so would have resulted in nothing more than choosing from a finite number of identified, predictable solutions of semiconductors capable of acting as either a negative or positive electrode, as set forth by Hashimoto, with a reasonable expectation of success.

Response to Arguments

6. Applicant's arguments with respect to claims 1-3 and 5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMESON Q. MA whose telephone number is (571)270-7063. The examiner can normally be reached on M-F 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Marcheschi can be reached on (571)272-1374. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JM
November 18, 2010

/Michael A Marcheschi/
Supervisory Patent Examiner, Art Unit 1775